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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/820,002	04/08/2004	Yuko Kamamura	Q80982	8564
23373	7590	03/14/2006	EXAMINER	
SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037			COMPTON, ERIC B	
			ART UNIT	PAPER NUMBER
			3726	

DATE MAILED: 03/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/820,002	KAMAMURA ET AL.	
	Examiner	Art Unit	
	Eric B. Compton	3726	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on _____.
- 2a) This action is **FINAL**. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) 6,7 and 9-11 is/are withdrawn from consideration.
- 5) Claim(s) 1 and 2 is/are allowed.
- 6) Claim(s) 3-5 and 8 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of Group II, claims 1-5 and 8 in the reply filed on December 14, 2005 is acknowledged.
2. Claims 6-7 and 9-11 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim.

Claim Rejections - 35 USC § 101

3. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4. Claims 3-5 are rejected under 35 U.S.C. 101, second paragraph, as claiming two different statutory classes.

MPEP §2173.05(p) provides:

A single claim which claims both an apparatus and the method steps of using the apparatus is indefinite under 35 U.S.C. 112, second paragraph. In *Ex parte Lyell*, 17 USPQ2d 1548 (Bd. Pat. App. & Inter. 1990), a claim directed to an automatic transmission workstand and the method steps of using it was held to be ambiguous and properly rejected under 35 U.S.C. 112, second paragraph.

Such claims should also be rejected under 35 U.S.C. 101 based on the theory that the claim is directed to neither a "process" nor a "machine," but rather embraces or overlaps two different statutory classes of invention set forth in 35 U.S.C. 101 which is drafted so as to set forth the statutory classes of invention in the alternative only. *Id.* at 1551.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 3-5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 3, recites, "The superfinishing method performing the superfinishing of the periphery of the work by a superfinishing machine as defined in Claim 1."

MPEP §2173.05(p) provides:

A single claim which claims both an apparatus and the method steps of using the apparatus is indefinite under 35 U.S.C. 112, second paragraph. In *Ex parte Lyell*, 17 USPQ2d 1548 (Bd. Pat. App. & Inter. 1990), a claim directed to an automatic transmission workstand and the method steps of using it was held to be ambiguous and properly rejected under 35 U.S.C. 112, second paragraph.

Claims 4-5 depend from claim 3 and therefore are also indefinite.

7. Claim 8 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. The omitted structural cooperative relationships are: the tracks have different radii of curvature along its length (axis). See similar limitation of claim 1 ("a pair of driving rollers each having a plurality of axially continuous contact portions having different contours of axially taken section provided at opposing positions.")

Claim Rejections - 35 USC § 103

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8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over JP 03-12015 in view of SU 671998.

Applicant provided a translation of JP 03-12015 which reveals:

A crowning surface with a large curvature radius is formed at an intermediate portion, and a crowning surface with a curvature radius smaller than that of the crowning surface at the intermediate portion is formed at both ends.

However, the reference does not disclose superfinishing the roller to form the crowning portions.

SU '998 discloses a superfinishing method for superfinishing the periphery of a columnar work, e.g., rollers with a superfinishing grindstone (2) pressed on the periphery of the work while rotating the work, comprising the steps of:

moving the work along tracks (1) having different radii of curvature while rotated, and

pressing the superfinishing grindstone (2) on the work during the movement to form arcs on the periphery thereof.

The reference notes:

The roller (1) is based on roll mechanism (2) which imparts rotation and moves it along. Tool (3) describes oscillating motion. The roller is also turned in the vertical plane about its trajectory of motion. *In each section, the tool works into only one cross-section of the roller, giving full contact with the abrasive bar. The full-contact zone moves from one end of the roller to the*

other so that the metal is taken off evenly. Great precision and fine finish are achieved.

Derwent English Abstract (emphasis added). As shown in the Figure, while the roller proceeds down the track the curvature of the periphery changes.

Regarding claim 8, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have formed the roller of JP '015 using a superfinishing process, in light of the teachings of SU '998, in order to form the roller surface with great precision.

Allowable Subject Matter

10. Claims 1-2 are allowed.
11. The following is a statement of reasons for the indication of allowable subject matter: the prior art of record does not teach or suggest a superfinishing machine comprising: a pair of driving rollers each having a plurality of axially continuous contact portions having different contours of axially taken section provided at opposing positions, in combination with the other claimed subject matter. See Figure 3.
12. DE 2350539, especially Figure 2, shows a similar invention. A machine translation, last paragraph of page 8 through page 9, top paragraph, reveals:

All rollers 38, 40, 42 agree regarding the training of the lateral surfaces as well as their diameter, the rollers 38, 40, 42 with one another are provided denZiehschleif stones 30, 32 opposite sections on their, with tapering 48, those by a pair with their pointed ends of aneinanderstossendenKglstumpfabschnit ten 50 to be formed in the two neighbouring tapering 48 two rollers 40 and 38 or 38 and 42 roll body 52 held, whose surfaces are feinoderFeinstbearbeitet, the spherically formed roll bodies 52 are because of four places on denregelstumpf

cut off 50 up those to bearing position are arranged regarding the vertical position of the associated pulling whet-stones 30 and/or, 32symmtrisch.

The translation of Page 11, last paragraph through page 12, reveals:

At the beginning of the transportation operation the carrying elements 54 are raised, whereby dieV Foermigen bearing surfaces 56 the roll body 52 lying on the rollers 38, 40, 42 to seize and from denWalzen 38, 40, 42 take off. Anschlie ssen the carrying elements 54 shifted 32 the division between two in a row angeordnetenZiehschleifsteinen 30, toward the chute 64, afterwards lowering the carrying elements 54 takes place, whereby the roll bodies 52 become in four places on surfaces of the truncated cone sections 50 support-supporting those in each case carrying elements 54 then toward derWerkstUckofuehrungsbahnG2 into their initial position back-shifted. If the roll bodies 52 on the rollers 38, 40, 42 are put down, the rollers 40, 42 are shifted in turn. This turn-transfers to the roll bodies 52 and the roller 38. The rollers 40, 42 can in the clockwise direction frequented. Thus the roll bodies 52 turn against and the roller 38 in the clockwise direction. By the turn a centring of the roll bodies in dentegel takes place blunt-cut off 50. Subsequently, the pulling whet-stones 30, 32 on the roll bodies 52 are lowered. This can happen by compressed air, with which to the Ziehschleifsteinengehrigen the actuators are subjected. During the sharpening procedure on the roll bodies of 52 forces in radial and axial direction, which will nommen from the rollers 38, 40, 42 auf, when sharpening remains exercised therefore the axial situation of the roll bodies 52. Tumbling odertippbevo gungen the roll body 52 is avoided. During processing thus a regular, smooth surface texture develops. After completion of the phase of operation dieZiehschleifsteine 30, 32 again situation kale in their association becomes follows a new of trans haven operation, in which roll bodies 52 between single nen working on places are work on-place-introduced exchanged sowieunbearbeiteth roll body 52 into first and worked on roll body 52 is removed from last work the latter tungsstellen. In between the feed of work pieces course the 62 and the chute 64 arranged working on places are worked on the roll bodies 52 with increasing refinement. The pulling whet-stones in a row exhibit therefore unterschiedlichetbrnungen.

Thus, the reference does not teach "the pair of driving rollers each having a plurality of axially continuous contact portion having different contours of axially taken section provided at opposing position."

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric B. Compton whose telephone number is (571) 272-4527. The examiner can normally be reached on M-F 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marc Jimenez can be reached on (571) 272-4530. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Eric B. Compton
Primary Examiner
Art Unit 3726

ebc